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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,297	07/29/2003	Hyon-Myong Song	678-1050 (P10325)	6471

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EXAMINER

THOMPSON, MELISSA

ART UNIT	PAPER NUMBER
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1745

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/04/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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Office Action Summary**Application No.**

10/629,297

Applicant(s)

SONG ET AL.

Examiner

Melissa B. Thompson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. In response to the amendment received December 26, 2006:
 - a. Claims 1-10 are pending;
 - b. The previous objection to the specification has been withdrawn in light of the amendment.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Remes et al. (U.S. Patent Number 6060193).

Remes et al. disclose a battery pack locking device that includes both a first and second locking section in column 1 lines 57-62. Remes et al. includes a push button and a spring that holds the locking piece in a raised position, acting as a support for the battery pack, as defined in the applicants' claim 1, in column 2 lines 48-56.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

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the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 7-9 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Burke (U.S. Patent Number 4358877).

Burke defines two separate pieces, a socket part and a tongue part. The tongue part fits into the socket part as seen in Figure 1. Burke includes a button member mounted on the socket part with a pair of spaced tension members

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located inside the housing. Burke includes a rod inside the socket that contains inner protrusions for locking the tongue. The protrusions fit into the spaced tension sections when the tongue is fit into place. Burke includes two metal plates that act as a groove for the tongue to slide into. When the button of the socket is pushed, the rod, which is attached to a spool, moves up and out of the protrusions releasing the tongue from the locking position, defined in the applicant's claims 7-9, in columns 3 and 4.

Burk includes all of the elements of claims 7-9, as described in the paragraph above, but does not include a battery pack. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate this kind of locking mechanism into a battery pack. This kind of lock prevents movement between the two pieces unless the button is depressed. By incorporating this kind of lock into a battery pack, unwanted separation of the two pieces could be avoided.

Response to Arguments

8. Applicants' arguments, with respect to claim 1, filed December 26, 2006 have been fully considered but they are not persuasive. Applicants' argue that:

"Remes et al. fails, either in the cited provisions or elsewhere, to disclose at least the recitation of a support section for supporting the battery pack to allow the battery pack to be locked and lock-released in the perpendicular direction, as in the invention of Claim 1."

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Examiner respectfully disagrees. The battery of Remes et al. must be moved in the perpendicular direction in order for the battery to be placed in the on the support section, where the battery is locked. It also is removed from the support section in the perpendicular direction after the lock-released.

9. Applicant's arguments, with respect to claim 7, filed December 26, 2006 have been fully considered but they are not persuasive. Applicants' argue that:

"Nowhere does Burke disclose or suggest the recitation of Claim 7 of a pair of spaced tension sections extending downwardly from the button while facing each other, the tension sections having an elasticity to be movable in the perpendicular direction."

Examiner respectfully disagrees. Burke et al. disclose a pair of spaced tension members (11), which allow the protrusions (5) to fit into. The open space of the tension sections are used to move up and around the protrusions when the seat belt is fastened; preventing the seat belt from coming undone. The key of the invention is drawn to a locking mechanism to secure two pieces together. The seat belt illustrates a locking mechanism that secures two pieces together and can therefore be used.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. Claims 2-6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakao (U.S. Patent Number 4,146,682) in view of Komiyama (U.S. Patent Number 5621618).

Nakao teaches a battery pack (2) that includes a button member (14) with a first lock releasing section (15), which allows the battery pack to be released. The main body (1), includes a locking section (13) that is protruded toward the battery pack (Figure 5). Nakao teaches an elastic section (12) that elastically deforms when the button member (14) is depressed. The elastic section (12) is

the second lock releasing section, that includes a lock retaining section at the end. The lock retaining section is the part that engages with the locking section (13) of the first lock releasing section (15) (Figure 5, as applied to claim 2).

The first (15) and second (12) lock releasing sections can be considered round at the edges. The first lock releasing section (15) will press against the second lock releasing section (12) when the button member (14) is depressed to elastically deform the second lock releasing section (12) and allow the battery pack (2) to be released (column 3, line 53 – column 4, line 16 and Figure 5, as applied to claim 3).

The lock retaining section (12) has what can be considered a round lower surface which the locking section (13) presses when the battery pack (2) is locked (column 3, line 53 – column 4, line 16 and Figure 5, as applied to claim 4).

The lock retaining section (12) has an inclined lower surface which the locking section (13) presses when the battery pack (2) is locked, causing the elastic section to be elastically deformed (column 3, line 53 – column 4, line 16 and Figure 5, as applied to claim 5).

The elastic section (12) includes a locking rib at the end away from the button member (14). The locking rib is provided with the second lock releasing section (12) and lock retaining section (12) (column 3, line 53 – column 4, line 16 and Figure 5, as applied to claim 10).

Nakao does not teach a button member that moves vertically with respect to the casing, but teaches a sliding button member. Nakao does not teach support sections and support grooves.

Komiyama teaches a button member (15) that moves vertically with respect to the casing (Figure 3A, as applied to claim 2)

Komiyama teach support sections (21) protruding from the end of the battery pack and includes support grooves (12) which engage with the support sections (21) (column 3, lines 10-11 and Figure 3A, as applied to claim 6).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include the button member Komiyama in the battery pack of Nakao. It is a design choice to use a different button member, but both choices provide the same result, the movement of key pieces. By pressing either button member, the battery pack will be released. Therefore, the type of button member used is a design choice and is obvious over one another.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include the support sections and grooves of Komiyama in the battery pack of Nakao. By including the support grooves at the opposite end of the battery provides a more stable and secure placement of the battery pack in the casing. The use of the grooves is to add stability and make sure the battery pack, when released, does not easily separate from the casing.

Response to Arguments

14. Applicant's arguments, filed December 26, 2006, with respect to claim 2 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa B. Thompson whose telephone number is (571) 272-2758. The examiner can normally be reached on Monday through Friday from 8am to 5pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



GREGG CANTELMO
PRIMARY EXAMINER

MBT

02 APRIL 2007